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BAPCOC
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The Global Point Prevalence Survey of Antimicrobial Consumption and Resistance (Global-PPS) in 100 Belgian hospital sites

Ann Versporten[1], Koen Magerman[2], Nico Drapier[1], Herman Goossens[1] and the Hospital Medicine Working Group of the Belgian Antibiotic Policy Coordination Committee
[1]Laboratory of Medical Microbiology, Vaccine & Infectious Disease Institute (VAXINFECTIO), Faculty of Medicine and Health Science, University of Antwerp, Belgium
[2]Department of Microbiology, Jessa Ziekenhuis, Hasselt, Belgium

Contact:
Global-pps@uantwerpen.be

INTRODUCTION AND PURPOSE

The 2014-2019 policy plan of the Belgian Antibiotic Policy Coordination Committee (BAPCOC) determined that the antibiotic policy groups, in place in all Belgian hospitals, need to work on major national topics to improve antibiotic prescribing practices. In particular, Belgian hospitals need to continuously monitor four defined quality indicators (QI): 1) choice of therapeutic antibiotics, 2) indication statement of antibiotic therapy in the medical record, 3) choice and 4) duration of surgical antibiotic prophylaxis following local instructions.
By means of the Global-PPS, we aimed to determine the variation in quantity and quality of antibiotic prescribing in adults and children admitted to the Belgian hospitals; and to identify targets for improvement according to the Belgian policy plan.

METHODS

Data were collected in 100 Belgian hospital-sites in February-June 2015 using the standardized and validated method. Detailed data was collected for all inpatients receiving at least one antimicrobial treatment on the day of the survey. Detailed patient data was mandatory and completely anonymously entered online using a web-based tool for data-entry, validation and reporting as designed by the University of Antwerp (www.global-pps.com). Denominator included all admitted inpatients, collected at ward level.

RESULTS

Out of 102 Belgian hospital entities, 69 (68%) participated to the Global-PPS; covering in total 100 hospital sites. Seven out of 9 Belgian tertiary care hospitals participated. Data included 26,346 patients admitted to 1,539 wards, of which 70.7% admitted in secondary care and 13.4% in tertiary care hospitals. Overall antimicrobial prevalence rate was 27.4% and differed considerably by hospital type (***see Table 1***) and between hospitals (***Figure 1***). Among all recorded antimicrobials (n=8,802); antibiotics, antifungals and anti-tuberculosis drugs represented 90.2%, 4.9% and 2.1%, respectively. Out of 7,942 antibiotics, 82.0% were prescribed for treatment and 15.3% for medical or surgical prophylaxis.

Table 1. Antimicrobial prevalence rates (%) by type of hospital

Hospital type (n=hospital sites)	N Beds	N Patients	N treated patients	%	Range (%)
Primary (n=23)	5526	4199	999	23.8%	3.3-51.8
Secondary (n=70)	23972	18616	5047	27.1%	6.0-45.6
Tertiary (n=7)	4401	3531	1161	32.9%	26.2-38.2
Total	**33899**	**26346**	**7207**	**27.4%**	**3.3-51.8**

Figure 1. Variation in antimicrobial prevalence rates (%) in Belgian hospitals

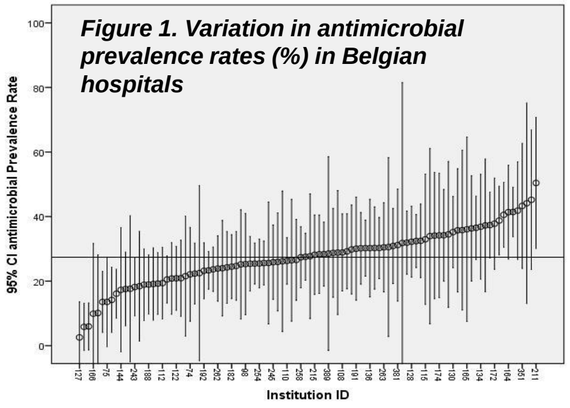

Table 2. Top 10 prescribed antibiotics for therapeutic and surgical prophylactic use

	Therapeutic All (%)	Therapeutic CAI (%)	Therapeutic HAI (%)		Surgical proph (%)
Co-amoxiclav	30.4	36.3	19.0	Cefazolin	62.6
Piperacillin/Tazo	10.3	7.9	14.9	Co-amoxiclav	10.3
Ciprofloxacin	7.2	6.4	8.6	Cefuroxime	5.0
Ceftriaxone	4.8	4.8	4.9	Ciprofloxacin	3.4
Moxifloxacin	4.5	5.4	2.6	Clindamycin	3.3
Meropenem	4.3	2.5	7.9	Metronidazole	2.7
Levofloxacin	3.7	3.4	4.4	Levofloxacin	1.5
Cefuroxime	3.7	3.5	3.9	Ornidazole	1.5
Vancomycin	3.2	1.7	6.1	Nifurtoinol	1.3
Amoxicillin	3.2	3.8	2.0	Cefadroxil	1.2

Figure 2. Variation in duration of surgical prophylaxis (%)

Table 3. Prevalence rates of QI of antibiotic prescribing by indication

	Medical (%)	Surgical (%)	ICU (%)
Reason in notes	81.5	73.2	89.6
Guidelines missing	9.7	8.5	7.3
Guideline compliant	80.3	74.2	83.3
Stop/review date documented	34.9	46.8	34.6
Parenteral administration	58.9	71.2	93.3
Targeted therapie	26.9	22.2	35.6

Overall, quinolones represented 14.0% (range: 4.3%-42.1%) of all antibiotic prescriptions, mostly ciprofloxacin (mainly for urinary tract infections) and moxifloxacin (mainly for lower respiratory tract infections). Amoxicillin accounted for only 3.0% of all antibiotic prescriptions. ***Table 2*** shows details of the top 10 antibiotics prescribed for therapeutic and surgical prophylactic use.
7.9% of patients (range: 4.5%-16.4%) were treated for a healthcare associated infection (HAI) of which most related to non-intervention associated infections (49.3%), followed by surgical site infections (18.8%) and infections originating from long term care facilities (11.5%). Prolonged surgical prophylaxis (>1day) ranged from 0-87% (mean=28%) (***Figure 2***). Details on antibiotic quality indicators are shown in ***Table 3***. In general, the documentation of a stop/review date was low.

CONCLUSION

We identified several targets to improve antibiotic prescribing in Belgium: number of patients with HAI, high levels of quinolone (moxifloxacin) and co-amoxiclav prescribing, the improvement of recording the reason and the follow-up of the antibiotic prescription (stop/review date) in notes. We aim to implement policy actions which need to be obtained at national and hospital level; and to include all Belgian hospitals for the next survey in 2016. Hospitals will receive support to implement interventions to improve quantitative and qualitative antibiotic prescribing.

Disclosures: "**bioMérieux** sponsored the GLOBAL Point Prevalence Survey. The funder has no role in study design, data collection, data analysis, data interpretation, or writing the report. Data are strictly confidential and stored anonymous at the coordinating centre of the University of Antwerp."